



results of BLAST

BLASTP 2.2.10 [Oct-19-2004]

Reference:

Altschul, Stephen F., Thomas L. Madden, Alejandro A. Schäffer, Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997), "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", *Nucleic Acids Res.* 25:3389-3402.

RID: 1112210329-25674-188551179453.BLASTQ4

Query=

(33 letters)

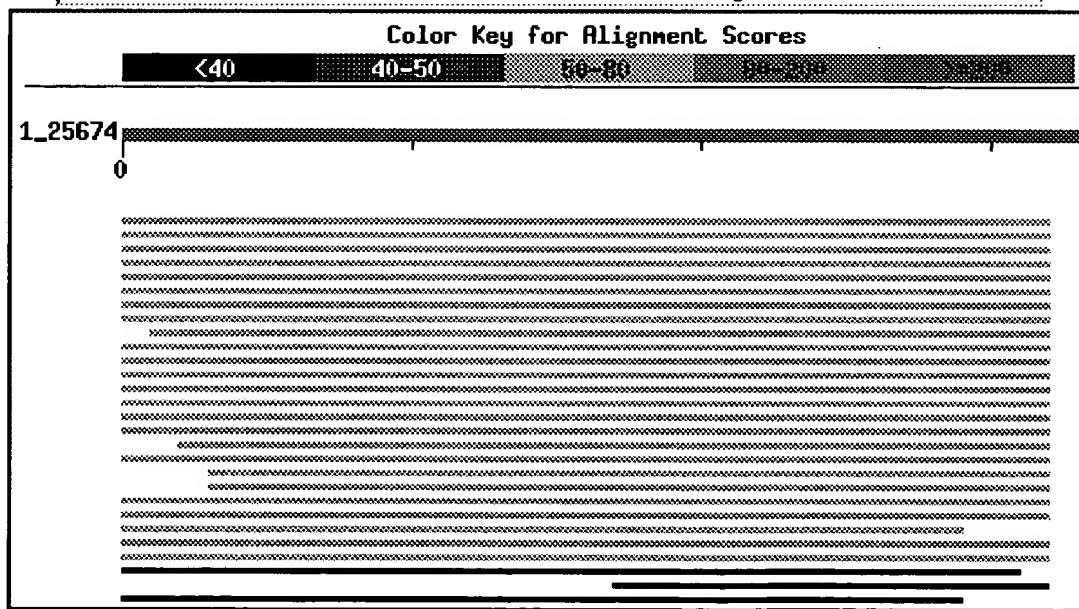
Database: All non-redundant GenBank CDS translations+PDB+SwissProt+PIR+PRF excluding environmental samples
 2,408,643 sequences; 815,228,232 total letters

If you have any problems or questions with the results of this search
 please refer to the [BLAST FAQs](#)

[Taxonomy reports](#)

Distribution of 28 Blast Hits on the Query Sequence

Mouse-over to show defline and scores. Click to show alignments



Related Structures

Sequences producing significant alignments:

Score E
 (bits) Value

gi 4506267 ref NP_000306.1 	parathyroid hormone preproprotein	[Homo sapiens]	60	2e-08	
gi 565142 qb AAB31748.1 	human parathyroid hormone; hPTH [s...]		60	2e-08	
gi 10120515 pdb 1ET1 B	Chain B, Crystal Structure Of Human ...		60	2e-08	
gi 55635601 ref XP_521846.1 	PREDICTED: similar to Parathyroid ...		60	2e-08	
gi 7416876 qb AAF62347.1 	parathyroid hormone [Equus caballus]		60	2e-08	
gi 1065314 pdb 1HPH 	Human Parathyroid Hormone Fragment 1 ...		60	2e-08	
gi 5359716 qb AAD42777.1 	parathyroid hormone precursor [Ma...		60	2e-08	
gi 6980561 pdb 1BWX 	The Solution Structure Of Human Parat...		60	2e-08	
gi 1942097 pdb 1ZWB 	Structure Of Human Parathyroid Hormon...		58	6e-08	
gi 50979128 ref NP_001003302.1 	parathyroid hormone [Canis ...		58	8e-08	
gi 47523856 ref NP_999566.1 	parathyroid hormone [Sus scrofa ...]		58	8e-08	
gi 85 emb CAA23439.1 	preproparathyroid hormone [Bos taurus...		57	2e-07	
gi 57163745 ref NP_001009210.1 	parathyroid hormone [Felis ...		57	2e-07	
gi 1942098 pdb 1ZWC 	Structure Of Bovine Parathyroid Hormo...		57	2e-07	
gi 1942099 pdb 1ZWD 	Structure Of Human Parathyroid Hormon...		57	2e-07	
gi 163647 qb AAA30749.1 	preproparathyroid hormone		57	2e-07	
gi 229314 prf 701028A 	parathyrin		57	2e-07	
gi 2624852 pdb 1HTH 	The Solution Structure Of Cyclic Huma...		56	3e-07	
gi 2392656 pdb 1ZWG 	Succinyl Human Parathyroid Hormone 4-...		55	5e-07	
gi 1942100 pdb 1ZWE 	Structure Of Human Parathyroid Hormon...		55	5e-07	
gi 8394100 ref NP_058740.1 	parathyroid hormone [Rattus nor...		53	2e-06	
gi 11513553 pdb 1FVY A	Chain A, Solution Structure Of The O...		53	2e-06	
gi 30387856 qb AAP32220.1 	hypothalamic parathyroid hormone...		53	2e-06	
gi 10181174 ref NP_065648.1 	parathyroid hormone [Mus musculus]		51	1e-05	
gi 601933 qb AAA57156.1 	parathyroid hormone precursor [Rat...]		50	2e-05	
gi 45382055 ref NP_990783.1 	thyroid hormone [Gallus gallus ...]		41	0.008	
gi 208546 qb AAA72765.1 	parathyroid hormone		37	0.11	
gi 34499964 qb AAQ73561.1 	parathyroid hormone type-2 precu...		32	6.2	

Alignments

[Get selected sequences](#) [Select all](#) [Deselect all](#)

>[gi|4506267|ref|NP_000306.1|](#)  parathyroid hormone preproprotein [Homo sapiens]
[gi|2144647|pir||PTHU](#) parathyroid hormone precursor [validated] - human
[gi|37144|emb|CAA23843.1|](#)  unnamed protein product [Homo sapiens]
[gi|190704|qb|AAA60215.1|](#)  preproparathyroid hormone
[gi|131547|sp|P01270|PTHY_HUMAN](#)  Parathyroid hormone precursor (Parathyrin) (PTH)
Length = 115

Score = 59.7 bits (143), Expect = .2e-08

Identities = 29/34 (85%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33

SVSEIQC HN GKHLS ERVEWLRKKLQDVHNY+

Sbjct: 32 SVSEIQLMHNLGKHLNSMERVEWLRKKLQDVHNF 65

[>] >gi|565142|gb|AAB31748.1| human parathyroid hormone; hPTH [synthetic construct]
gi|209186|gb|AAA73011.1| parathyroid hormone
Length = 85

Score = 59.7 bits (143), Expect = 2e-08
Identities = 29/34 (85%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
SVSEIQC HN GKHLS ERVEWLRKKLQDVHN+
Sbjct: 2 SVSEIQLMHNLGKHLNSMERVEWLRKKLQDVHNF 35

[>] >gi|10120515|pdb|1ET1|B [■] Chain B, Crystal Structure Of Human Parathyroid Hormone
0.9 Å Resolution

gi|10120514|pdb|1ET1|A [■] Chain A, Crystal Structure Of Human Parathyroid Hormone
0.9 Å Resolution

gi|1942096|pdb|1ZWA| [■] Structure Of Human Parathyroid Hormone Fragment 1-34, Nmr
Structures

gi|6980572|pdb|1HPY| [■] The Solution Structure Of Human Parathyroid Hormone Fragment
In 20% Trifluorethanol, Nmr, 10 Structures
Length = 34

Score = 59.7 bits (143), Expect = 2e-08
Identities = 29/34 (85%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
SVSEIQC HN GKHLS ERVEWLRKKLQDVHN+
Sbjct: 1 SVSEIQLMHNLGKHLNSMERVEWLRKKLQDVHNF 34

[>] >gi|55635601|ref|XP_521846.1| [G] PREDICTED: similar to Parathyroid hormone precursor
(PTH) (Parathormone) [Pan troglodytes]
Length = 147

Score = 59.7 bits (143), Expect = 2e-08
Identities = 29/34 (85%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
SVSEIQC HN GKHLS ERVEWLRKKLQDVHN+
Sbjct: 64 SVSEIQLMHNLGKHLNSMERVEWLRKKLQDVHNF 97

[>] >gi|7416876|gb|AAF62347.1| parathyroid hormone [Equus caballus]
Length = 86

Score = 59.7 bits (143), Expect = 2e-08
Identities = 29/34 (85%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
SVSEIQC HN GKHLS ERVEWLRKKLQDVHN+
Sbjct: 3 SVSEIQLMHNLGKHLNSVERVEWLRKKLQDVHNF 36

► >gi|1065314|pdb|1HPH|  Human Parathyroid Hormone Fragment 1 - 37 (Hpth(1-37))
Structures
Length = 37

Score = 59.7 bits (143), Expect = 2e-08
Identities = 29/34 (85%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
SVSEIQ HN GKHLS ERVEWLRKKLQDVHN+
Sbjct: 1 SVSEIQLMHNLGKHLNSMERVEWLRKKLQDVHNF 34

► >gi|5359716|gb|AAD42777.1| parathyroid hormone precursor [Macaca fascicularis]
gi|13124462|sp|Q9XT35|PTHY_MACFA Parathyroid hormone precursor (Parathyrin) (PTH)
Length = 115

Score = 59.7 bits (143), Expect = 2e-08
Identities = 29/34 (85%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
SVSEIQ HN GKHLS ERVEWLRKKLQDVHN+
Sbjct: 32 SVSEIQLMHNLGKHLNSMERVEWLRKKLQDVHNF 65

► >gi|6980561|pdb|1BWX|  The Solution Structure Of Human Parathyroid Hormone Fragment 1-39, Nmr, 10 Structures
Length = 39

Score = 59.7 bits (143), Expect = 2e-08
Identities = 29/34 (85%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
SVSEIQ HN GKHLS ERVEWLRKKLQDVHN+
Sbjct: 1 SVSEIQLMHNLGKHLNSMERVEWLRKKLQDVHNF 34

► >gi|1942097|pdb|1ZWB|  Structure Of Human Parathyroid Hormone Fragment 2-37, Nmr, 10 Structures
Length = 36

Score = 58.2 bits (139), Expect = 6e-08
Identities = 28/33 (84%), Positives = 29/33 (87%), Gaps = 1/33 (3%)

Query: 2 VSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
VSEIQ HN GKHLS ERVEWLRKKLQDVHN+
Sbjct: 1 VSEIQLMHNLGKHLNSMERVEWLRKKLQDVHNF 33

► >gi|50979128|ref|NP_001003302.1|  parathyroid hormone [Canis familiaris]
gi|1085421|pir||JC4202 parathyroid hormone precursor - dog
gi|558916|gb|AAA82584.1|  parathyroid hormone precursor
gi|1709894|sp|P52212|PTHY_CANFA  Parathyroid hormone precursor (Parathyrin) (PTH)
Length = 115

Score = 57.8 bits (138), Expect = 8e-08
 Identities = 28/34 (82%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQ-CHNC GKHLNSXERVEWLRKKLQDVHNY 33
 SVSEIQ HN GKHL+S ERVEWLRKKLQDVHN+
 Sbjct: 32 SVSEIQFMHN LGKHLSSMERVEWLRKKLQDVHNF 65

[>gi|47523856|ref|NP_999566.1| G parathyroid hormone [Sus scrofa]
 gi|2144646|pir||PTPG parathyroid hormone precursor - pig
 gi|1839|emb|CAA29193.1| G unnamed protein product [Sus scrofa]
 gi|131548|sp|P01269|PTHY_PIG G Parathyroid hormone precursor (Parathyrin) (PTH)
 Length = 115

Score = 57.8 bits (138), Expect = 8e-08
 Identities = 28/34 (82%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCG GKHLNSXERVEWLRKKLQDVHNY 33
 SVSEIQ HN GKHL+S ERVEWLRKKLQDVHN+
 Sbjct: 32 SVSEIQLMHN LGKHLSSMERVEWLRKKLQDVHNF 65

[>gi|85|emb|CAA23439.1| G preproparathyroid hormone [Bos taurus]
 gi|31982386|ref|NP_776379.2| G parathyroid hormone [Bos taurus]
 gi|69233|pir||PTBO parathyroid hormone precursor - bovine
 gi|163645|gb|AAA30748.1| G preproparathyroid hormone
 gi|163643|gb|AAA30747.1| G preproparathyroid hormone
 gi|131545|sp|P01268|PTHY_BOVIN G Parathyroid hormone precursor (Parathyrin) (PTH)
 Length = 115

Score = 56.6 bits (135), Expect = 2e-07
 Identities = 27/34 (79%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQ-CHNC GKHLNSXERVEWLRKKLQDVHNY 33
 +VSEIQ HN GKHL+S ERVEWLRKKLQDVHN+
 Sbjct: 32 AVSEIQFMHN LGKHLSSMERVEWLRKKLQDVHNF 65

[>gi|57163745|ref|NP_001009210.1| G parathyroid hormone [Felis catus]
 gi|11119195|gb|AAG30545.1| G preproparathyroid hormone [Felis catus]
 gi|47117317|sp|Q9GL67|PTHY_FELCA G Parathyroid hormone precursor (Parathyrin) (PT)
 Length = 115

Score = 56.6 bits (135), Expect = 2e-07
 Identities = 27/34 (79%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQ-CHNC GKHLNSXERVEWLRKKLQDVHNY 33
 SVSEIQ HN GKHL+S ERVEWLR+KLQDVHN+
 Sbjct: 32 SVSEIQFMHN LGKHLSSVERVEWLRRKI QDVHNF 65

[>gi|1942098|pdb|1ZWC| Structure Of Bovine Parathyroid Hormone Fragment 1-37,

Structures
Length = 37

Score = 56.6 bits (135), Expect = 2e-07
Identities = 27/34 (79%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQ-CHNCGKHLNSXERVEWLRKKLQDVHNY 33
+VSEIQ HN GKHL+S ERVEWLRKKLQDVHN+
Sbjct: 1 AVSEIQFMHNGLGKHLSSMERVEWLRKKLQDVHNF 34

 >gi|1942099|pdb|1ZWD|  Structure Of Human Parathyroid Hormone Fragment 3-37, 1 Structures
Length = 35

Score = 56.6 bits (135), Expect = 2e-07
Identities = 27/32 (84%), Positives = 28/32 (87%), Gaps = 1/32 (3%)

Query: 3 SEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
SEIQ HN GKHLNS ERVEWLRKKLQDVHN+
Sbjct: 1 SEIQLMHNLGKHLNSMERVEWLRKKLQDVHNF 32

 >gi|163647|gb|AAA30749.1|  preproparathyroid hormone
Length = 115

Score = 56.6 bits (135), Expect = 2e-07
Identities = 27/34 (79%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQ-CHNCGKHLNSXERVEWLRKKLQDVHNY 33
+VSEIQ HN GKHL+S ERVEWLRKKLQDVHN+
Sbjct: 32 AVSEIQFMHNGLGKHLSSMERVEWLRKKLQDVHNF 65

 >gi|229314|prf||701028A parathyrin
Length = 84

Score = 56.6 bits (135), Expect = 2e-07
Identities = 27/34 (79%), Positives = 30/34 (88%), Gaps = 1/34 (2%)

Query: 1 SVSEIQ-CHNCGKHLNSXERVEWLRKKLQDVHNY 33
+VSEIQ HN GKHL+S ERVEWLRKKLQDVHN+
Sbjct: 1 AVSEIQFMHNGLGKHLSSMERVEWLRKKLQDVHNF 34

 >gi|2624852|pdb|1HTH|  The Solution Structure Of Cyclic Human Parathyroid Hormone Fragment 1 - 34, Nmr, 10 Structures
Length = 34

Score = 55.8 bits (133), Expect = 3e-07
Identities = 28/34 (82%), Positives = 29/34 (85%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
SVSEIQ HN G HLN ERVEWLRKKLQDVHN+
Sbjct: 1 SVSEIQLXHNGLGXHLNEXSERVEWLRKKLQDVHNF 34

► >gi|2392656|pdb|1ZWG| █ Succinyl Human Parathyroid Hormone 4-37, Nmr, 10 Struct
 gi|2392655|pdb|1ZWF| █ Structure Of N-Terminal Acetylated Human Parathyroid Hormone, 10 Structures
 Length = 35

Score = 55.1 bits (131), Expect = 5e-07
 Identities = 26/31 (83%), Positives = 27/31 (87%), Gaps = 1/31 (3%)

Query: 4 EIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
 EIQC HN GKHLNS ERVEWLRKKLQDVHNY+
 Sbjct: 2 EIQLMHNLGKHLNSMERVEWLRKKLQDVHNF 32

► >gi|1942100|pdb|1ZWE| █ Structure Of Human Parathyroid Hormone Fragment 4-37, Nmr, 10 Structures
 Length = 34

Score = 55.1 bits (131), Expect = 5e-07
 Identities = 26/31 (83%), Positives = 27/31 (87%), Gaps = 1/31 (3%)

Query: 4 EIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
 EIQC HN GKHLNS ERVEWLRKKLQDVHNY+
 Sbjct: 1 EIQLMHNLGKHLNSMERVEWLRKKLQDVHNF 31

► >gi|8394100|ref|NP_058740.1| █ parathyroid hormone [Rattus norvegicus]
 gi|56003|emb|CAA29192.1| █ unnamed protein product [Rattus norvegicus]
 gi|92588|pir|IA05091| parathyroid hormone precursor - rat
 gi|206485|gb|AAA41979.1| █ preproparathyroid hormone
 gi|131549|sp|P04089|PTHY_RAT| █ Parathyroid hormone precursor (Parathyrin) (PTH)
 Length = 115

Score = 53.1 bits (126), Expect = 2e-06
 Identities = 25/34 (73%), Positives = 29/34 (85%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
 +VSEIQC HN GKHL S ER++WLRKKLQDVHNY+
 Sbjct: 32 AVSEIQLMHNLGKHLASVERMOWLRLKKLQDVHNF 65

► >gi|11513553|pdb|1FVY|A| █ Chain A, Solution Structure Of The Osteogenic 1-31 Fragment Of The Human Parathyroid Hormone
 Length = 31

Score = 53.1 bits (126), Expect = 2e-06
 Identities = 27/31 (87%), Positives = 27/31 (87%), Gaps = 1/31 (3%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDV 30
 SVSEIQC HN GKHLNS ERVEWLRKKLQDV
 Sbjct: 1 SVSEIQLMHNLGKHLNSMERVEWLRKKLQDV 31

...>gi|30387856|gb|AAP32220.1| **G** hypothalamic parathyroid hormone [Rattus norvegicus]
Length = 105

Score = 53.1 bits (126), Expect = 2e-06
Identities = 25/34 (73%), Positives = 29/34 (85%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
+VSEIQ HN GKHL S ER++WLRKKLQDVHN+
Sbjct: 22 AVSEIQLMHNLGKHLASVERMQWLRRKLQDVHNF 55

...>gi|10181174|ref|NP_065648.1| **G** parathyroid hormone [Mus musculus]
gi|4092930|gb|AAC99656.1| **G** parathyroid hormone precursor [Mus musculus]
Length = 115

Score = 50.8 bits (120), Expect = 1e-05
Identities = 23/34 (67%), Positives = 29/34 (85%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
+VSEIQ HN GKHL S ER++WLR+KLQD+HN+
Sbjct: 32 AVSEIQLMHNLGKHLASMERMQWLRRKLQDMHNF 65

...>gi|601933|gb|AAA57156.1| parathyroid hormone precursor [Rattus norvegicus]
gi|2118603|pir||I51851 parathyroid hormone - rat (fragment)
Length = 105

Score = 50.1 bits (118), Expect = 2e-05
Identities = 23/34 (67%), Positives = 28/34 (82%), Gaps = 1/34 (2%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 33
++SEIQ HN GKHL S ER++WLRKKLQD HN+
Sbjct: 22 AISEIQLMHNLGKHLASVERMQWLRRKLQDGHNF 55

...>gi|45382055|ref|NP_990783.1| **G** thyroid hormone [Gallus gallus]
gi|212592|gb|AAB02866.1| **G** parathyroid hormone precursor [Gallus gallus]
gi|86411|pir||A34937 parathyroid hormone precursor - chicken
gi|212768|gb|AAA49093.1| **G** thyroid hormone precursor
gi|131546|sp|P15743|PTHY_CHICK **G** Parathyroid hormone precursor (PTH)
Length = 119

Score = 41.2 bits (95), Expect = 0.008
Identities = 19/33 (57%), Positives = 26/33 (78%), Gaps = 1/33 (3%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDVHNY 32
SVSE+Q HN G+H ++ ER +WL+ KLQDVH+
Sbjct: 32 SVSEMQLMHNLGEHRHTVERQDWLQMKLQDVHS 64

...>gi|208546|gb|AAA72765.1| parathyroid hormone

Length = 67

Score = 37.4 bits (85), Expect = 0.11
Identities = 15/16 (93%), Positives = 16/16 (100%)

Query: 18 ERVEWLRKKLQDVHNY 33
ERVEWLRKKLQDVHN+
Sbjct: 2 ERVEWLRKKLQDVHNF 17

[] >gi|34499964|qb|AAQ73561.1| parathyroid hormone type-2 precursor [Takifugu rubripinnis]
Length = 91

Score = 31.6 bits (70), Expect = 6.2
Identities = 14/31 (45%), Positives = 22/31 (70%), Gaps = 1/31 (3%)

Query: 1 SVSEIQC-HNCGKHLNSXERVEWLRKKLQDV 30
++SE+Q HN +H ER +WL++KL+DV
Sbjct: 30 TISEVQLMHNVRHKQVGERQDWLQEKLKDV 60

Get selected sequences

Select all

Deselect all

Database: All non-redundant GenBank CDS
translations+PDB+SwissProt+PIR+PRF excluding environmental samples
Posted date: Mar 27, 2005 1:57 AM
Number of letters in database: 815,228,232
Number of sequences in database: 2,408,643

Lambda K H
0.318 0.131 0.427

Gapped
Lambda K H
0.267 0.0410 0.140

Matrix: BLOSUM62
Gap Penalties: Existence: 11, Extension: 1
Number of Hits to DB: 12,595,323
Number of Sequences: 2408643
Number of extensions: 204760
Number of successful extensions: 1200
Number of sequences better than 10.0: 12
Number of HSP's better than 10.0 without gapping: 11
Number of HSP's successfully gapped in prelim test: 1
Number of HSP's that attempted gapping in prelim test: 1189
Number of HSP's gapped (non-prelim): 12
length of query: 33
length of database: 815,228,232
effective HSP length: 8
effective length of query: 25
effective length of database: 795,959,088
effective search space: 19898977200
effective search space used: 19898977200

T: 11
A: 40
X1: 16 (7.3 bits)
X2: 38 (14.6 bits)
X3: 64 (24.7 bits)
S1: 41 (21.7 bits)
S2: 69 (31.2 bits)